

<b>U.S. Department of Energy</b> <b>U.S. Energy Information Administration</b> <b>Form EIA-923 (2011)</b>	<b>POWER PLANT OPERATIONS</b> <b>REPORT INSTRUCTIONS</b>	<b>Form Approval</b> <b>OMB No. 1905-0129</b> <b>Approval Expires: 10/31/2013</b> <b>Burden: 2.8 Hours</b>
<b>PURPOSE</b>	<p>Form EIA-923 collects information from electric power plants and combined heat and power (CHP) plants in the United States (see Required Respondents immediately below). Data collected on this form include electric power generation, fuel consumption, fossil fuel stocks, delivered fossil fuel cost, combustion byproducts, operational cooling water data, and operational data for NO<sub>x</sub>, SO<sub>2</sub>, and particulate matter control equipment. These data are used to monitor the status and trends of the electric power industry and appear in many U.S. Energy Information Administration (EIA) publications including: <i>Electric Power Monthly</i>, <i>Electric Power Annual</i>, <i>Monthly Energy Review</i>, <i>Annual Energy Review</i>, <i>Natural Gas Monthly</i>, <i>Natural Gas Annual</i>, <i>Cost and Quality of Fuels</i>, <i>Quarterly Coal Report</i>, and the <i>Renewable Energy Annual</i>. Further information can be found at <a href="http://www.eia.gov/fuelelectric.html">http://www.eia.gov/fuelelectric.html</a>. The “Stocks at End of Reporting Period” information (SCHEDULE 4), Nonutility “Total Delivered Cost” information (SCHEDULE 2), and “Commodity Cost” information (SCHEDULE 2) reported on this form are protected information.</p>	
<b>REQUIRED RESPONDENTS</b>	<p>The Form EIA-923 is a mandatory report for all electric power plants and CHP plants that meet the following criteria: 1) have a total generator nameplate capacity (sum for generators at a single site) of 1 megawatt (MW) or greater; and 2) where the generator(s), or the facility in which the generator(s) resides, is connected to the local or regional electric power grid and has the ability to draw power from the grid or deliver power to the grid. To lessen the reporting burden, a sample of plants is collected on a monthly basis. Plants that are not selected to respond monthly must respond annually for the calendar year. Facilities that do not generate electricity but serve either as a transfer terminal or offsite storage facility for fossil fuel stocks for generating stations may be required to report on the Form EIA-923.</p> <p>See instructions for each schedule for more specific filing requirements.</p>	
<b>RESPONSE DUE DATE</b>	<p><b>Monthly respondents</b> are required to file SCHEDULE 1 through SCHEDULE 5 and SCHEDULE 9 of this form with EIA by the last day of the month following the reporting period. For example, if reporting for July, survey data are due on August 31.</p> <p><b>Supplemental respondents</b> (monthly respondents’ filings of Schedule 6 through Schedule 8) are required to file the form approximately 45 calendar days after the form opens for data entry – typically around March 31 following the end of the reporting year.</p> <p><b>Annual respondents</b> are required to file the form approximately 45 calendar days after the form opens for data entry – typically around March 31 following the end of the reporting year. (Schedules 3A, 5A, and 8D require monthly level data for the calendar year. All other schedules collect aggregated annual data for the calendar year.)</p> <p><b>See instructions for each schedule for more specific filing requirements.</b></p>	
<b>METHODS OF FILING RESPONSE</b>	<p>Submit your data electronically using EIA’s secure e-file system. This system uses security protocols to protect information against unauthorized access during transmission.</p> <p>If you have not registered with the e-file Single Sign-On (SSO) system, send an email requesting assistance to: <a href="mailto:EIA-923@eia.gov">EIA-923@eia.gov</a>.</p> <p>If you have registered with SSO, log on at: <a href="https://signon.eia.gov/ssoserver/login">https://signon.eia.gov/ssoserver/login</a></p> <p>If you are having a technical problem with logging into or using the e-file system, contact the Help Desk at: Email: <a href="mailto:EIASurveyHelpCenter@eia.gov">EIASurveyHelpCenter@eia.gov</a>, or Phone: 202-586-9595</p> <p>If you need an alternate means of filing your response, contact the Help Desk. Retain a completed copy of this form for your files.</p>	

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<b>CONTACTS</b>	<p><b>E-file System Questions:</b> For questions related to the e-file system, see the help contact information immediately above.</p> <p><b>Data Questions:</b> For questions about the data requested on the Form EIA-923, contact:</p> <table border="0"> <tr> <td>Schedules 1 &amp; 4:</td> <td>Chris Cassar</td> <td><a href="mailto:christopher.cassar@eia.gov">christopher.cassar@eia.gov</a></td> <td>202-586-5448</td> </tr> <tr> <td>Schedule 2:</td> <td>Rebecca Peterson</td> <td><a href="mailto:rebecca.peterson@eia.gov">rebecca.peterson@eia.gov</a></td> <td>202-586-4509</td> </tr> <tr> <td>Schedules 3 &amp; 5:</td> <td>Ron Hankey</td> <td><a href="mailto:ronald.hankey@eia.gov">ronald.hankey@eia.gov</a></td> <td>202-586-2630</td> </tr> <tr> <td>Schedules 6, 7, &amp; 8:</td> <td>Channele Wirman</td> <td><a href="mailto:channele.wirman@eia.gov">channele.wirman@eia.gov</a></td> <td>202-586-5356</td> </tr> <tr> <td>EIA-923 Fax:</td> <td colspan="3">202-287-1959 or 202-287-1960</td> </tr> <tr> <td>EIA-923 Mailbox:</td> <td colspan="3"><a href="mailto:EIA-923@eia.gov">EIA-923@eia.gov</a></td> </tr> </table>		Schedules 1 & 4:	Chris Cassar	<a href="mailto:christopher.cassar@eia.gov">christopher.cassar@eia.gov</a>	202-586-5448	Schedule 2:	Rebecca Peterson	<a href="mailto:rebecca.peterson@eia.gov">rebecca.peterson@eia.gov</a>	202-586-4509	Schedules 3 & 5:	Ron Hankey	<a href="mailto:ronald.hankey@eia.gov">ronald.hankey@eia.gov</a>	202-586-2630	Schedules 6, 7, & 8:	Channele Wirman	<a href="mailto:channele.wirman@eia.gov">channele.wirman@eia.gov</a>	202-586-5356	EIA-923 Fax:	202-287-1959 or 202-287-1960			EIA-923 Mailbox:	<a href="mailto:EIA-923@eia.gov">EIA-923@eia.gov</a>		
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<b>GENERAL INSTRUCTIONS</b>	<p><b>Revision Policy:</b> Submit revisions to data previously reported as soon as possible after the error or omission is discovered. Do not wait to revise data until the next reporting month's form is due. Revisions or adjustments to data should be made only to the survey month(s) to which they pertain. (Do not adjust the current month to reflect a revision or adjustment to a prior month submission.)</p> <ul style="list-style-type: none"> <li>• Log on to the e-file system, re-key revised data, indicate in SCHEDULE 9 the nature and date of the revision, and resubmit the data.</li> <li>• Remember to save and RESUBMIT (click on the SUBMIT button).</li> </ul> <p>If you are unable to make a revision through the e-file system because the monthly data file has been closed, please email your changes to <a href="mailto:EIA-923@eia.gov">EIA-923@eia.gov</a>, and indicate 'Revision' in subject line. Be sure to include your Plant ID, the specific revision, and the month that is being revised.</p> <p><b>Correcting prepopulated information:</b> For e-file users, much of the information on the form is prepopulated by EIA. Verify the administrative information and make corrections to the contact name, phone numbers, addresses, or email addresses. Please note that PLANT NAME, PLANT CODE, and COMPANY NAME cannot be changed. Contact the survey manager if these items are incorrect.</p> <p><b>Correcting errors:</b> For e-file users, data that fail our edits will be amassed into an edit log. Upon hitting the "Submit" button, the system will notify you if there are failed edits in the log. You will be directed to the log and given the opportunity to either revise the data in question or override it. When an edit is overridden, the system will ask for a comment/explanation. Each explanation is reviewed by EIA and, if it does not sufficiently explain the anomaly, you will be contacted for a more detailed clarification.</p> <p><b>Revising data:</b> If you report via facsimile or email, you may send a corrected copy of the form, but be sure to indicate in SCHEDULE 9: (1) that it is a revision, (2) the month that is being revised, (3) what has been revised, and (4) the date of the revision. If you report via the e-file system, send an email to the survey manager indicating the 4 items listed above.</p> <p>Schedule 9 is provided for respondents to provide comments. Use it to explain anomalies with data or to provide any further details that are pertinent to the data and plant.</p>																									

**ITEM-BY-ITEM  
INSTRUCTIONS**

**SCHEDULE 1. IDENTIFICATION**

1. **Survey Contact:** Verify contact name, title, address, telephone number, fax number, and email address.
2. **Supervisor of Contact Person for Survey:** Verify the contact's supervisor's name, title, address, telephone number, Fax number and email address. The Survey Contact and Supervisor cannot be the same person.  
  
If any of the above information is incorrect, revise the incorrect entry and provide the correct information. Provide any missing information.
3. **Report For:** Verify all information, including company name, plant name, plant identification number, plant State and county, and month or year for which data are being reported. State codes are two-character U.S. Postal Service abbreviations. These fields cannot be revised online. Contact the EIA-923 survey manager if corrections are needed.
4. **Regulatory Status:** Verify that the check correctly identifies your plant as either regulated or unregulated. Contact the EIA-923 survey manager if a correction is needed.
5. **CHP Checkbox:** Verify that the check correctly indicates whether or not this facility is a combined heat and power plant, regardless of its utility/nonutility status. Contact the EIA-923 survey manager if a correction is needed.
6. **CHP Plant Efficiency:** If the CHP checkbox is "YES", enter the efficiency of the combined heat and power plant. To calculate the total plant efficiency, divide the sum of the energy outputs (in British thermal units (Btu)), including net generation and useful thermal output by the sum of the energy inputs (fuels converted to Btu). Report the annual average total CHP plant efficiency.

**SCHEDULE 2. COST AND QUALITY OF FUEL PURCHASES – PLANT-LEVEL**

**REQUIRED RESPONDENTS:** Plants with a total nameplate capacity of 50 MW and above that use fossil fuels (coal, petroleum products, petroleum coke, natural gas, and other gases, including blast furnace gas) for the generation of electric power or the combined production of electric power and useful thermal output must complete the appropriate data on Schedule 2, Cost and Quality of Fuel Receipts.

All fuel purchases should be reported at the plant level. However, for fuel received at transfer terminals or storage facilities that CANNOT be allocated to individual plants or vendor information for cost and quality of the fuel at a terminal is not available to the plant, the terminal or storage facility must report the fuel purchases, including cost and quality data. Terminals and storage facilities must list the plants where the fuel will be utilized on Schedule 9, Comments.

In order to avoid duplicate data, report purchases at **either** the storage site **or** at the plant, but not both. Purchases reported by a storage site and then transferred to the plant should not be reported at the plant level. Instead, designate such transfers in Schedule 4 as a negative adjustment to stocks at the storage site and a positive adjustment to stocks at the plant, including appropriate comments.

**ANNUAL RESPONDENTS:** Report Schedule 2 by aggregating receipts for the entire year in the manner specified in the instructions for Schedule 2, Page 1 below.

**Plant Name, Plant ID, State, Reporting Month and Year:** For e-file users, verify the prepopulated information for these items at the top of this (and all) page(s).

If no fuel was purchased during the reporting period, place a check in the "No Receipts" box, and go to Schedule 3.

If this plant has a tolling agreement and the toller will not divulge the cost of the fuel, you may leave both the commodity and delivered prices blank. Report all other data. Be sure to indicate that there is a tolling agreement currently in place by entering a check in the box at the center of the page. For e-file users, this check will carry over into subsequent months. If the agreement expires, contact the survey manager to have the check removed.

## **SCHEDULE 2. PAGE 1. CONTRACT INFORMATION, RECEIPTS, AND COSTS.**

### **1. Fuel Supplier Name:**

**Coal Purchases:** Report data by supplier and mine source. (Purchased coal or petroleum coke which will be converted to synthesis gas should be reported as it is received, i.e. as coal or petroleum coke.)

Monthly Respondents: Coal received from spot-market purchases and from contract purchases must be reported separately. Data on coal received under each purchase order or contract from the same supplier must be reported separately. Coal purchases can be aggregated when supplier, purchase type, contract date, coal rank, transportation mode, costs, fuel quality, and all mine information are identical. If coal received under a purchase order or contract originates in more than one State/county/mine and the mines are known as well as the amount received from each mine, split the amount received accordingly between the number of different mines and report identical quality and prices (unless the actual quality and prices are known). Mine information is reported on Page 3 of Schedule 2. If the mine or group of mines is not available on the list of mines provided for data entry on the e-filing system, contact EIA immediately (see contacts on Page 1 of the form or instructions). EIA will add appropriate choices for purchases from multiple sources to the drop down list.

Annual Respondents: Coal received from spot market purchases and from contract purchases must be reported separately. Aggregation of coal shipments is allowed ONLY IF shipments are identical in purchase type, coal rank, mine name, mine type, Mine Safety and Health Administration (MSHA) ID, State of origin, county of origin, and supplier. For aggregated purchases, report the weighted average cost and quality of the fuel. If the mine or group of mines is not available on the list of mines provided for data entry on the e-filing system, contact EIA immediately (see contacts on Page 1 of the form or instructions).

**Petroleum Purchases:** Report data by fuel type, supplier or broker, or refinery and, if applicable, port of entry.

Monthly Respondents: Oil received from spot-market purchases and from contract purchases must be reported separately. Report individual shipments as separate line items.

Annual Respondents: Oil received from spot-market purchases and from contract purchases must be reported separately. Aggregation for the entire year is allowed by fuel type and supplier. If aggregated, report the weighted average cost and quality of the fuel.

**Gas Purchases (monthly and annual respondents):** Report data by fuel type and supplier. Aggregation of gas deliveries from various suppliers is allowed only if 1) the deliveries are spot purchases, 2) the type of gas is the same (either NG, OG, or PG), and 3) the transportation contracts are identical (either firm or interruptible). For aggregated deliveries, report the pipeline or distributor in the supplier column and the weighted average cost and quality of the fuel. Contract purchases must be reported as separate line items and should never be aggregated. For gas produced by the plant (e.g., BFG), list the supplier as "self-produced," which is one of the choices in the drop-down list of suppliers. Do not report land fill gas (LFG) in the category of other gases (OG) on Schedule 2 because LFG is not a fossil fuel. Do not report gas injected into storage. Report it when it is delivered to the plant. Do not report any costs associated with storage.

2. **Contract Type:** Use the following codes for **coal**, **petroleum** and **natural gas** purchases:

**C – Contract Purchase** – Fuel received under a purchase order or contract with a term of **one year or longer**. Contracts with a shorter term are considered spot purchases. (See below.)

**NC – New Contract or Renegotiated Contract Purchase** – Fuel received under a purchase order or contract with duration of one year or longer, under which deliveries were first made during the reporting month.

**S – Spot-Market Purchase** – Fuel received under a purchase order or contract with duration of **less than one year**.

3. **Contract Expiration Date:** Enter the month and the year the purchase order or contract expires. For example, report “1112” for a November “2012” expiration date. This column should be left blank if **Contract Type** contains an “S” for spot-market purchase.

#### **Purchases**

4. **Energy Source:** Identify purchased fossil fuels using the energy source codes listed in Table 8 for coal, petroleum products, petroleum coke, and natural gas and other gases.
5. **Quantity Received:** Enter quantities in tons for coal (on an as-received with moisture basis) and other solid fuels, barrels for oil and other liquid fuels, and thousands of cubic feet for gas. Fuel purchases reported should pertain to the fuel that will ultimately be used only in the electric power plant for the generation of electricity and at combined heat and power plants for useful thermal output (process steam, district heating/cooling, space heating, or steam delivered to other end users). As far as possible, do not include fuel that will be used in boilers with no connection to an electric power generator and are not part of the electric power station. If these fuels cannot be separated, please provide a comment on Schedule 9, Comments. Start-up and flame-stabilization fuels should be reported. When fuel is purchased by and received at the plant and is resold, report the total receipts minus the amount sold. See the below instruction regarding how to report the costs.

#### **Cost of Fuel**

6. **Total Delivered Cost (all fuels):** Enter the delivered cost of the fuel in cents per million Btu to the nearest 0.1 cent. This cost should include all costs incurred in the purchase and delivery of the fuel to the plant. It should not include unloading costs. Do not include adjustments associated with prior months' fuel costs. The delivered price for fuel shipped under contract should include any penalties/premiums paid or expected to be paid on the fuel delivered during the month. These adjustments should be made only by revising the appropriate prior months' submissions. The current month fuel costs should reflect only costs associated with the current month fuel deliveries. If fuel received at the plant is resold, report the commodity cost and the total delivered cost as the cents per MMBtu paid for the original receipt. Do not discount the costs by the revenue received for the sale of the fuel.
7. For natural gas, include the following pipeline charges: fuel losses, transportation reservation charges, balancing costs, and distribution system costs outside of the plant. Because these types of fees can skew the cost of the fuel per MMBtu, please provide an explanation in an edit log override comment, e.g. “This price includes a reservation fee of x dollars.”
8. **Commodity Cost (Coal, Petroleum Coke, and Natural Gas Only):** The commodity cost is the price of that fuel (in cents per million Btu) at the point of first loading (free on board mine/transportation pipeline (FOB)) including taxes and any quality-related charges or credits. The commodity cost does not include: loading and unloading charges, dust proofing, freeze conditioning, switching charges, diesel fuel surcharges, pipeline charges, or any other charges relating to the movement of the fuel to

the point of use. In the case of natural gas this is typically the price of the gas FOB the transmission pipeline.

9. For fuel purchased via a hedging contract, report the actual fuel supplier, not the hedge contract. Report the cost net of gains/losses as a result of the contract.

## **SCHEDULE 2. PAGE 2. QUALITY OF FUEL AND TRANSPORTATION INFORMATION**

### **Quality of Fuel**

**Fuel Supplier Name, Contract Type, Quantity Purchased, and Energy Source** is prepopulated for e-file users based on the data entered on page 1 of SCHEDULE 2.

1. **Heat Content:** Enter the actual (not contractual) average Btu content for each fuel purchase in terms of million (MMBtu) per ton for solid fuel, MMBtu per barrel for liquid fuel, and MMBtu per thousand cubic feet for gas. Show to the nearest 0.001 MMBtu. Refer to Table 8 for approximate ranges.
2. **Sulfur Content:** For all coal types, petroleum coke, residual fuel oil, and waste oil, enter the sulfur content of the fuel in terms of percent sulfur by weight. Show to the nearest 0.01 percent. Refer to Table 1 for approximate ranges.
3. **Ash Content:** For coal and petroleum coke, enter the ash content of the fuel in terms of percent ash by weight. Show to the nearest 0.1 percent. Enter a comment in Schedule 9 if the reported ash content for coal is an estimate. Refer to Table 1 for approximate ranges.
4. **Mercury Content:** For coal only, enter the mercury content in parts per million (ppm). Show to the nearest 0.001 parts per million (ppm). If lab tests of the coal receipts do not include the mercury content, enter the amount specified in the contract with the supplier. Refer to Table 1 for approximate ranges. If mercury content is unknown, enter 9.

**Table 1**

<b>Fuel</b>	<b>% Sulfur</b>	<b>% Ash</b>	<b>Mercury (ppm)</b>
<b>BIT</b>	0.4 – 6.0	4.0 – 30.0	0.020 -- 0.500
<b>LIG</b>	0.4 – 3.0	5.0 – 35.0	0.020 -- 0.500
<b>SUB</b>	0.2 – 1.5	3.0 – 15.0	0.020 -- 0.200
<b>ANT</b>	0.4 – 6.0	4.0 – 30.0	0.020 -- 0.500
<b>RC</b>	0.2 – 6.0	3.0 – 30.0	0.020 -- 0.500
<b>WC</b>	0.3 – 6.0	5.0 – 50.0	0.020 -- 1.200
<b>PC</b>	1.0 – 7.0	0.1 -- 1.2	
<b>RFO</b>	0.2 – 4.5		
<b>WO</b>	0.0 – 4.5		

### **Fuel Transportation**

5. **Natural Gas:** Use the following codes for natural gas transportation service:

**F – Firm** – Gas transportation service provided on a firm basis, i.e. the contract with the gas transportation company anticipates no interruption of gas transportation service. Firm transportation service takes priority over interruptible service.

**I – Interruptible** – Gas transportation service provided under schedules or contracts which anticipate and permit interruption on short notice, such as in peak-load seasons, by reason of the claim of firm service customers and higher priority users.

(Note: Natural Gas received under firm contracts must be reported separately from interruptible contracts.)

6. **Predominant Mode:** The method used to transport the fuel over the longest distance from point of origin to consumer. If the shipment involves only one mode of transportation, that is the Predominant Mode. If the shipment involves more than one mode of transportation, see Secondary Mode below.

7. **Secondary Mode:** If more than one method of transportation is used in a single shipment, the Secondary Mode of transportation is the second longest method used to transport the fuel to consumer. If more than two methods are used in a single shipment, only the Predominant and Secondary Modes should be reported.

Do not report “truck” as a transportation mode if trucks are used to transport coal exclusively on private roads between the mine and rail load-out or barge terminal.

Do not report the transportation modes used entirely within a mine, terminal, or power plant (e.g., trucks used to move coal from a mine pit to the mine load-out; conveyors at a power plant used to move coal from the plant storage pile to the plant).

For minemouth coal plants, report “Conveyor” as the Predominant Mode if the conveyor feeding coal to the plant site originates at the mine. Otherwise report the Predominant Mode (typically truck or rail) used to move the coal to the plant site.

Report Transportation Modes using the following codes:

**RR – Rail:** Shipments of fuel moved to consumers by rail (private or public/commercial). Included is coal hauled to or away from a railroad siding by truck if the truck did not use public roads.

**RV – River:** Shipments of fuel moved to consumers via river by barge. Not included are shipments to Great Lakes coal loading docks, tidewater piers, or coastal ports.

**GL – Great Lakes:** Shipments of coal moved to consumers via the Great Lakes. These shipments are moved via the Great Lakes coal loading docks, which are identified by name and location as follows:

Conneaut Coal Storage & Transfer, Conneaut, Ohio  
NS Coal Dock (Ashtabula Coal Dock), Ashtabula, Ohio  
Sandusky Coal Pier, Sandusky, Ohio  
Toledo Docks, Toledo, Ohio  
KCBX Terminals Inc., Chicago, Illinois  
Superior Midwest Energy Terminal, Superior, Wisconsin

**TP – Tidewater Piers and Coastal Ports:** Shipments of coal moved to Tidewater Piers and Coastal Ports for further shipments to consumers via coastal water or ocean. The Tidewater Piers and Coastal Ports are identified by name and location as follows:

Dominion Terminal Associates, Newport News, Virginia  
McDuffie Coal Terminal, Mobile, Alabama

IC Railmarine Terminal, Convent, Louisiana  
International Marine Terminals, Myrtle Grove, Louisiana  
Cooper/T. Smith Stevedoring Co. Inc., Darrow, Louisiana  
Seward Terminal Inc., Seward, Alaska  
Los Angeles Export Terminal, Inc., Los Angeles, California  
Levin-Richmond Terminal Corp., Richmond, California  
Baltimore Terminal, Baltimore, Maryland  
Norfolk Southern Lamberts Point P-6, Norfolk, Virginia  
Chesapeake Bay Piers, Baltimore, Maryland  
Pier IX Terminal Company, Newport News, Virginia  
Electro-Coal Transport Corp., Davant, Louisiana

**WT – Water:** Shipments of fuel moved to consumers by other waterways.

**TR – Truck:** Shipments of fuel moved to consumers by truck. Not included is fuel hauled to or away from a railroad siding by truck on non-public roads.

**TC – Tramway/Conveyor:** Shipments of fuel moved to consumers by tramway or conveyor.

**SP – Slurry Pipeline:** Shipments of coal moved to consumers by slurry pipeline.

**PL – Pipeline:** Shipments of fuel moved to consumers by pipeline.

## **SCHEDULE 2. PAGE 3. COAL MINE INFORMATION**

**Fuel Supplier Name, Contract Type, Quantity Purchased, and Energy Source** is prepopulated for e-file users based on the data entered on page 1 of SCHEDULE 2.

1. **State or Country of Origin:** Choose the two-letter U.S. Postal Service abbreviation or country code from the drop down list of coal producing states (countries). For imported coal, insert the two-letter country code shown here.

**AS** – Australia; **CN** – Canada; **CL** – Colombia; **IS** – Indonesia; **PL** – Poland;

**RS** – Russia; **VZ** – Venezuela; **OT** – Other (specify the country in Schedule 9).

The State of Origin is mandatory. If purchases originate from a broker, barge site or other third party, you must contact the broker, barge site or other party and find out the State(s) where the coal originates. If the broker or supplier is not forthcoming with State of Origin information or Mine Information, provide the name and telephone number of the supplier on Schedule 9, Comments.

If coal purchased under a purchase order or contract originates in more than one State, determine from the supplier the most dominant or probable State(s) of origin for the coal. Contact EIA to have the supplier and State(s) added to the drop down list of choices for State of Origin and Mine Information on Schedule 2 Page 3. If the amount of coal from each State/Mine is known, allocate the purchase among multiple States, or report the State where the majority of the coal originates and report identical quality and cost data (unless the actual quality and costs are known).

Contact EIA immediately (see contacts on Page 1 of the form or instructions) for assistance in reporting coal State of Origin or Mine Information. EIA will add appropriate choices for purchases from multiple sources to the drop down list.

2. **Mine Information:** Choose from the drop down list the mine of origin. The list will display only those mines located in the State/country of origin. The displayed information includes the mine operating company for informational purposes to aid in identifying the mine of origin. Upon choosing a mine, the



MSHA ID, Mine Name, Mine Type and Mine County will automatically be populated.

Mine Information is mandatory. If coal purchased under a purchase order or contract originates in more than one State, determine from the supplier the most dominant or probable mine(s) of origin for the coal. List the mines on Schedule 9, Comments. If the broker or supplier is not forthcoming with State of Origin information or Mine Information, provide the name and telephone number of the supplier on Schedule 9, Comments.

In cases where coal originates from multiple mines or the specific mine information cannot be determined, list the tipples/loading point or dock on Schedule 9, Comments. EIA will add appropriate choices to the drop down list of Mine Information to accommodate multiple mines or undetermined mine sources. Use Schedule 9, Comments, to provide detailed explanations of mine origin data, including names of multiple mines for a specific supplier/broker or dock, or the most probable origin of the coal (county/State) if not specifically known.

Contact EIA immediately (see contacts on Page 1 of the form or instructions) for assistance in reporting coal State of Origin or Mine Information. EIA will add appropriate choices for purchases from multiple sources to the drop down list.

### **SCHEDULE 3. PART A. BOILER-LEVEL INFORMATION FOR STEAM-ELECTRIC ORGANIC-FUELED PLANTS – FUEL CONSUMPTION**

**Required Respondents:** Complete this schedule for fuels consumed in the boilers at plants with steam turbines that have a total nameplate capacity of 10 MW and above and burn organic fuels. This does not include steam turbines where the energy source is nuclear, geothermal, or solar, or plants that have less than 10 MW total steam turbine nameplate capacity. Also report on this schedule fuels consumed at combined-cycle plants for supplementary firing of heat recovery steam generator (HRSG) units that have a total steam turbine nameplate capacity of 10 MW and above. If no fuel is consumed, for example in combined-cycle steam units (HRSG) without supplementary firing, report zero. Do not leave the field blank. Report fuels consumed in gas turbines, including the gas turbines at combined-cycle plants, and IC engines on SCHEDULE 3 PART B.

For combined heat and power plants, if steam was produced for purposes other than electric power generation during this reporting period, please place a check in the box on the form.

For those plants that report annually, Schedules 3A and 5A must be reported for each month.

Prime movers are devices that convert one energy form (such as heat from fuels or the motion of water or wind) into mechanical energy. Examples include steam turbines, combustion turbines, reciprocating engines, and water turbines. For a complete list of prime mover codes, please refer to Table 7.

**Prime Mover Code:** Prime mover codes are shown in Table 7. Only CA and ST can be used in Schedule 3. Part A. For e-file users, the code is prepopulated. If the prepopulated code is incorrect, delete the code and choose the correct prime mover code from the drop-down list.

**Boiler ID:** The boiler ID is prepopulated. For an ID not prepopulated, choose the ID from the drop down list of boiler IDs reported for your plant on the Form EIA-860. If the boiler ID is not on the list, contact EIA immediately to have the ID added to your form. Boiler IDs must match those reported on the Form EIA-860.

**Boiler Status:** Enter one of the codes listed below:

**Table 2**

Code	Boiler Status
OP	Operating (in commercial service or out of service less than 365 days)
OS	Out of service (365 days or longer)
RE	Retired (no longer in service and not expected to be returned to service)
SB	Standby (or inactive reserve); i.e., not normally used, but available for service
SC	Cold Standby (Reserve); deactivated (usually requires 3 to 6 months to reactivate)
TS	Operating under test conditions (not in commercial service)

**Energy Source:** Use the fuel codes in Table 8. For bituminous and subbituminous coal that is blended, where possible report each coal rank consumed separately. If no allocation can be determined, report the fuel that is predominant in quantity. An estimated allocation between coal ranks is acceptable. For energy source codes OTH, OBS, OBG, OBL and OG, specify the fuel in the area at the bottom of the page.

**Quantity Consumed:** For each month, report the amount of fuel consumed for electric power generation and, at combined heat and power stations, for useful thermal output. Combined-cycle units should report only the auxiliary firing fuel associated with the HRSG. Do not report the fuel consumed in the combustion turbine portion of the combined-cycle unit on Schedule 3A. CT consumption must be reported on Schedule 3B.

**Type of Physical Units:** Fuel consumption must be reported in the following units:

Solids – Tons

Liquids – Barrels (one barrel equals 42 U.S. gallons)

Gases – Thousands of cubic feet (Mcf)

**Average Heat Content:** For each month, report the heat content of the fuels burned to the nearest 0.001 million Btu (MMBtu) per physical unit. The heat content of the fuel should be reported as the gross or “higher heating value” (rather than the net or lower heating value). The higher heating value exceeds the lower heating value by the latent heat of vaporization of the water. The heating value of fuels generally used and reported in a fuel analysis, unless otherwise specified, is the higher heating value. If the fuel heat content cannot be reported “as burned,” data may be obtained from the fuel supplier on an “as received” basis. If this is the case, indicate on SCHEDULE 9 that the fuel heat content data are “as received.” Report the value in the following units: solids in million Btu (MMBtu) per ton; liquids in MMBtu per barrel; and gases in MMBtu per thousand cubic feet (Mcf). Refer to Table 8 for approximate ranges of heat content of specific energy sources.

**Sulfur Content (petroleum, petroleum coke, and coal):** For each month, enter sulfur content to nearest 0.01 percent. Sulfur content should be reported for the following fuel codes: ANT, BIT, LIG, RC, SUB, WC, PC, RFO, and WO. Refer to Table 1 for approximate ranges.

**Ash Content (coal and petroleum coke only):** For each month, enter ash content to the nearest 0.1 percent. Ash content should be reported for the following fuel codes: ANT, BIT, LIG, SUB, WC, RC, and PC. Refer to Table 1 for approximate ranges.

**Report actual values.** If necessary, report estimated values and state that the value is an estimate on SCHEDULE 9.

**ENTER ZERO** when an energy source was not consumed for the reporting period. Do not leave blank.

**SCHEDULE 3. PART B. FUEL CONSUMPTION – PRIME MOVER-LEVEL**

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	<p><b>Required Respondents:</b> Report fuel consumed in all gas turbines, including the combustion turbine part of combined-cycle plants, internal combustion engines, steam-electric plants under 10 megawatts, fuel cells, and electric power input to pumped-storage hydroelectric plants, compressed air units, and other miscellaneous energy storage technologies. Excluded from this schedule are conventional hydroelectric plants and all other plants that are not required to report energy consumed (e.g., wind, solar, geothermal, and nuclear). Do not report for each individual unit. For example, report natural gas consumed in all combustion turbines (GT) at the plant as one value and report distillate fuel oil consumed by all IC engines as one value. Combined-cycle plants should report the fuel consumed by the combustion turbines (CT) on this schedule. Report supplementary fuel consumed by the HRSG on this schedule only if the total steam-electric capacity is less than 10 MW. All steam-electric plants and HRSGs at combined-cycle plants with a total steam electric nameplate of 10 MW and above must report fuel consumption at the boiler level on Schedule 3A.</p> <p>Prime movers are devices that convert one energy form (such as heat from fuels or the motion of water or wind) into mechanical energy. Examples include steam turbines, combustion turbines, reciprocating engines, and water turbines.</p> <p>For combined heat and power plants, if steam was produced for purposes other than electric power generation during this reporting period, please place a check in the box on the form.</p> <p><b>Prime Mover Code:</b> Prime mover codes are shown in Table 7. Only CA, CE, CS, CT, FC, GT, IC, PS, ST, and OT can be used in Schedule 3. Part B. For e-file users, the code is prepopulated. If the prepopulated code is incorrect, choose the correct code from the drop-down list. Each prime mover type on Schedule 3B must have a corresponding entry on Schedule 5B for electric power generation.</p> <p><b>Report actual values.</b> If necessary, report estimated values and state that the value is an estimate on SCHEDULE 9.</p> <p><b>Energy Source:</b> Use the fuel codes in Table 8. For bituminous and subbituminous coal that is blended, where possible report each coal rank consumed separately. If no allocation can be determined, report the fuel that is predominant in quantity. An estimated allocation between coal ranks is acceptable. For energy source codes OTH, OBS, OBG, OBL and OG, specify the fuel in the area at the bottom of the page.</p> <p><b>Quantity Consumed:</b> For each month, report the amount of fuel consumed for electric power generation and, at combined heat and power stations, for useful thermal output. Include start-up and flame-stabilization fuels. Pumped storage hydroelectric plants and compressed air plants report the megawatthours of energy input for pumping water or compressing air for energy storage. Combined-cycle plants with no supplementary firing must report the CA unit on Schedule 3B with ZERO for fuel consumed. Each prime mover type on Schedule 3B must have a corresponding entry on Schedule 5B for electric power generation.</p> <p><b>Type of Physical Units:</b> Fuel consumption must be reported in the following units:  Solids – Tons  Liquids – Barrels (one barrel equals 42 U.S. gallons)  Gases – Thousands of cubic feet (Mcf)  Pumped storage hydro and compressed air -- Megawatthours</p> <p><b>Average Heat Content:</b> For each month, report the heat content of the fuels burned to the nearest .001 MMBtu (million Btu) per physical unit (MMBtu per ton/barrel/thousand cubic feet). The heat content of the fuel should be reported as the gross or "higher heating value" (rather than the net or lower heating value). The higher heating value exceeds the lower heating value by the latent heat of vaporization of the water. The heating value of fuels generally used and reported in a fuel analysis, unless otherwise specified, is the higher heating value. If the fuel heat content cannot be reported "as burned," data may be obtained from the fuel supplier on an "as received" basis. If this is the case, indicate on SCHEDULE 9 that the fuel heat content data are "as received." Report the value in the following units: solids in MMBtu per ton; liquids</p>	

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<p>in MMBtu per barrel; and gases in MMBtu per thousand cubic feet (Mcf). Refer to Table 8 for approximate ranges of heat content for specific fuels. Heat content can be blank if fuel consumed is zero and for pumped storage and compressed air plants.</p>		
<p style="text-align: center;"><b>SCHEDULE 4. FOSSIL FUEL STOCKS AT THE END OF THE REPORTING PERIOD AND DATA BALANCE</b></p> <p><b>Required Respondents:</b> Schedule 4 regarding stocks must be completed by all plants that burn fossil fuels: COAL, DISTILLATE FUEL OILS (NO. 2, 4), RESIDUAL FUEL OIL (NO. 6), JET FUEL, KEROSENE, PETROLEUM COKE, and for plants 50 MW and above, NATURAL GAS. Although there are no stocks for natural gas, the energy balance (between receipts and consumed fuel) and comments should be completed for natural gas plants that have a total nameplate capacity of 50 MW and more (and have completed Schedule 2).</p> <p>Report fuel stocks ONLY for the following fuels:</p> <ul style="list-style-type: none"> <li>– Coal: Report all stocks of coal for use by this power plant. Include both stocks held on site and stocks held off site whether owned by your plant or by an affiliated company. If the stocks are held for the plant by an affiliated company and the amount is unknown, please provide EIA the name of the company. EIA will contact them to obtain the stocks number. Do not report waste coal stocks.</li> <li>– Residual oil (No. 5 and No. 6 fuel oils)</li> <li>– Distillate-type oils (including diesel oil, No. 2 oil, jet fuel, and kerosene)</li> <li>– Petroleum coke</li> </ul> <p>Include back-up fuels and start-up and flame-stabilization fuels. Do not report stocks for waste coal, natural gas, or wood and wood waste or other biomass fuels. All fuel stocks should be reported at the plant level where possible. Stocks data should be reported by a transfer terminal or storage facility only if inventory cannot be attributed to individual plants.</p> <p>To avoid duplication, do not report receipts in Schedule 2 at the plant level that have already been reported by a transfer terminal or storage facility and then transferred to a plant(s). Designate such transfers in Schedule 4 as negative adjustments to stocks at the transfer terminal or storage facility and positive adjustments to stocks at the plant, including appropriate comments. Depending on the required data at transfer terminals or storage sites and associated plants, the energy balance may require an explanatory comment. <b>ENTER ZERO</b> in the Ending Stocks column if a plant has no stocks. Do not leave the field blank.</p> <p><b>Energy Source:</b> For e-file users, the energy source code is prepopulated. If needed, add an energy source code from the drop-down list. Energy source codes cannot be deleted from Schedule 4.</p> <p><b>Type of Physical Units:</b> Report coal and petroleum coke in tons and distillate and residual oils in barrels.</p> <ol style="list-style-type: none"> <li>1. <b>Previous Month's Ending Stocks:</b> This is automatically populated into the schedule from the previous reporting period.</li> <li>2. <b>Current Month's Purchases:</b> These data have been reported (above in SCHEDULE 2) and the</li> </ol>		

sum by energy source is automatically populated.

3. **Current Month's Consumption:** These data have been reported (in SCHEDULE 3A and 3B) and the sum by energy source is automatically populated.
4. **Ending Stocks:** Report this month's ending stocks. Include all on-site stocks held for eventual use in the electric power plant regardless of actual ownership of the fuel.
5. **Adjustment to Stocks:** Report adjustments to end-of-month stocks. Adjustments may include stocks transferred or sold offsite and revisions to account for adjustments to previous months' stocks. Adjustments can be positive or negative. Enter an explanation for the adjustment in the section provided on Schedule 4.
6. **Balance:** The data balance verifies the quality of the data. The balance is the difference between Reported Ending Stocks (4) and an expected value for ending stocks calculated by the following equation: Previous Month's Ending Stocks plus Current Month's Purchases minus Current Month's Consumption plus (or minus) Adjustment to Stocks  $[(4) = (1) + (2) - (3) + (5)]$ . If the balance is a non-zero value, please review the data entered for stocks, receipts, consumption, and adjustments. Enter a comment in the box on Schedule 4 for Balance comments to explain any discrepancy. Fuel receipts that are not used for the production of electricity but for other purposes at the plant (e.g. as a feed material to produce chemical byproducts such as fertilizers, etc.) may cause an imbalance in the equation. Likewise, fuel that is sold during the month may cause an imbalance. Enter an adjustment to balance the equation and enter an explanation for the adjustment or other situation that result in an imbalance. Note that there are separate areas on Schedule 4 for adjustment explanations and explanations for balances not equal to zero.

#### **SCHEDULE 5. PART A. GENERATOR INFORMATION FOR STEAM-ELECTRIC ORGANIC-FUELED PLANTS**

**Required Respondents:** This schedule will be completed ONLY for generators at steam-electric organic-fueled plants with a total steam turbine capacity of 10 megawatts and above, including the steam turbine generation from combined-cycle units. Report generation for all other types of prime movers (combustion turbines, IC engines, wind, and hydraulic turbines), and steam turbine capacity of less than 10 megawatts and all plants fueled by nuclear, solar, geothermal, or other energy sources on SCHEDULE 5. PARTS B or C. Generation reported on Schedule 5. Part A. corresponds to the fuel consumption reported on Schedule 3. Part A.

For those plants that report annually, Schedules 3.A. and 5.A. must be reported for each month.

**Prime Mover Code:** Prime mover codes are shown in Table 7. Only CA and ST can be used in Schedule 5. Part A. For e-file users, the code is prepopulated. If the prepopulated code is incorrect, choose the correct prime mover code from the drop-down list.

**Generator ID:** The generator ID is prepopulated. For an ID not prepopulated, choose the ID from the drop down list of generator IDs that were reported for your plant on the Form EIA-860. If the generator ID is not

on the list, contact EIA immediately to have the ID added to your form. Generator IDs must match those reported on the Form EIA-860.

Data must be reported in megawatthours (MWh), rounded to whole numbers, no decimals.

If no generation occurred, report **ZERO**. Please do not leave fields blank.

**Generator Status:** Enter one of the codes listed in Table 3 for generator status.

**Table 3**

Status Code	Status Code Description
OP	Operating - in service (commercial operation) and producing some electricity. Includes peaking units that are run on an as needed (intermittent or seasonal) basis.
SB	Standby/Backup - available for service but not normally used (has little or no generation during the year) for this reporting period
OA	Out of service – was not used for some or all of the reporting period but was either returned to service on December 31 or will be returned to service in the next calendar year.
OS	Out of service – was not used for some or all of the reporting period and is NOT expected to be returned to service in the next calendar year.
RE	Retired - no longer in service and not expected to be returned to service
TS	Operating under test conditions (not in commercial service)

**Gross Generation:** Enter the total amount of electric energy produced by generating units and measured at the generating terminal. For each month, enter that amount in MWh.

**Net Generation:** Enter the net generation (gross generation minus the parasitic station load, i.e. station use). If the monthly station service load exceeded the monthly gross electrical generation, report negative net generation with a minus sign, not parentheses. For each month, enter that amount in MWh. Combined heat and power plants in the industrial and commercial sectors may choose to leave net generation blank in cases where net generation cannot be determined. Please note that net generation is not defined as electric power sold to the grid (net of direct use), but as gross minus station use. If station use is not separable from direct use at combined heat and power plants, report only gross generation and leave net generation blank.

#### **SCHEDULE 5. PART B. PRIME MOVER LEVEL GENERATION**

**Required Respondents:** This schedule will be completed by: 1) steam-electric organic-fueled plants with a total steam turbine capacity less than 10 megawatts, 2) combined-cycle plants whose steam portion of the operation is under 10 MW and 3) all IC engines, combustion turbines, compressed air units, pumped-storage hydroelectric turbines, and other miscellaneous energy storage technologies. Generation reported on this schedule corresponds to the fuel consumption reported on Schedule 3. Part B.

**Prime Mover Code:** Prime mover codes are shown in Table 7. Only CA, CE, CS, CT, FC, GT, IC, PS, ST, and OT can be used in Schedule 5. Part B. For e-file users, the code is prepopulated. If the prepopulated code is incorrect, choose the correct prime mover code from the drop-down list. Each prime mover type on Schedule 5B must have a corresponding entry on Schedule 3B for fuel consumption. Note that for prime mover type CA, the entry on Schedule 3B (fuel consumed) is ZERO. If no generation occurred, report zero. Do not leave fields blank. Data must be reported in MWh, rounded to whole numbers, with no decimals.

**Gross Generation:** Enter the total amount of electric energy produced by generating units and measured at the generating terminal. For each month, enter in the MWh generated.

**Net Generation:** Enter the net generation (gross generation minus the parasitic station load, i.e. station use). If the monthly station service load exceeded the monthly gross electrical generation, report negative net generation with a minus sign. Do not use parentheses. For each month, enter that amount in MWh. Combined heat and power plants in the industrial and commercial sectors may choose to leave net generation blank in cases where net generation cannot be determined. Please note that net generation is not defined as electric power sold to the grid (net of direct use), but as gross minus station use. If station use is not separable from direct use at combined heat and power plants, report only gross generation and leave net generation blank.

#### **SCHEDULE 5. PART C. GENERATION FROM NUCLEAR AND OTHER NONCOMBUSTIBLE ENERGY SOURCES**

**Required Respondents:** This schedule will be completed by all nuclear plants and by all wind, solar, geothermal, conventional hydroelectric or other plants where the energy source is not required to be reported on Schedules 3A or 3B, such as purchased steam or waste heat. No fuel consumption data is required for these types of plants. Report generation by energy source for nuclear, wind, solar, geothermal, conventional hydroelectric and miscellaneous sources such as purchased steam or waste heat. Report nuclear data by generating unit. For all other plant types, ignore the unit column. Do not report generation at a combined-cycle plant. All combined-cycle generation is reported on SCHEDULE 5. PARTS A or B, even though the fuel consumption for non-supplementary fired HRSG units is zero (reported on Schedule 3A or 3B with a zero for fuel).

**Prime Mover Code:** Prime mover codes are shown in Table 7. Only HY, HA, HB, HK, BT, PV, ST, WT, and OT can be used in Schedule 5. Part C. For e-file users, the code is prepopulated. If the prepopulated code is incorrect, choose the correct prime mover code from the drop-down list.

**Energy Source:** Enter one of the fuel codes listed in Table 8.

**Unit Code:** The nuclear unit code is prepopulated. Contact EIA if it is incorrect. All other plants ignore this field.

**Gross Generation:** Enter the total amount of electric energy produced by generating units and measured at the generating terminal. For each month, enter that amount in MWh.

**Net Generation:** Enter the net generation (gross generation minus the parasitic station load, i.e. station use). If the monthly station service load exceeded the monthly gross electrical generation, report negative net generation with a minus sign. Do not use parentheses. For each month, enter that amount in MWh. Combined heat and power plants in the industrial and commercial sectors may choose to leave net generation blank in cases where net generation cannot be determined. Please note that net generation is not defined as electric power sold to the grid (net of direct use), but as gross minus station use. If station use is not separable from direct use at combined heat and power plants, report only gross generation and leave net generation blank.

#### **SCHEDULE 6. NONUTILITY ANNUAL SOURCE AND DISPOSITION OF ELECTRICITY**

**Required Respondents:** Nonutility plants report annual calendar year data for the source and disposition of electricity.

- If you file the EIA-923 monthly, this schedule is completed on the Form EIA-923 Supplemental Form

and is filed annually.

- If you file the EIA-923 annually, this schedule is completed on the Form EIA-923 Annual.

Report all generation in MWh rounded to a whole number.

**Source of Electricity**

1. **Gross Generation (Annual):** Report the total gross generation from all prime movers at the plant. Note that for monthly respondents this should equal the sum of the gross generation reported each month on Schedules 5A, 5B, and 5C.
2. **Other Incoming Electricity:** Report all incoming electricity to the facility, whether from purchases, tolling agreements, transfers, exchanges, or other arrangements.
3. **Total Sources:** The sum of the total gross electricity generated plus the total incoming electricity is automatically calculated and displayed. The Total Sources must equal Total Disposition (see below).

**Disposition of Electricity**

4. **Station Use:** Station Use is electricity that is used to operate an electric generating plant, which is the electricity used in the operation and maintenance of the facility (e.g., parasitic loads from auxiliary equipment), regardless of whether the electricity is produced at the plant or comes from another source. Station use does not include any electricity converted and stored at an energy storage plant (such as electricity used for pumping at a hydroelectric pumped-storage plant), nor direct use (see below) of electricity by an industrial or commercial CHP plant.
5. **Direct Use (Industrial and Commercial Sector Plants, both CHP and non-CHP):** Report the amount of electricity generated by the plant and consumed onsite for processes such as manufacturing, district heating/cooling, and uses other than power plant station use. (Plants that cannot separate Station Use and Direct Use may enter zero in Station Use and the sum of Station Use and Direct Use in the Direct Use field. Provide a comment on SCHEDULE 9.)
6. **Total Facility Use:** The sum of station use and direct use is calculated and displayed.
7. **Retail Sales to Ultimate Customers:** Report the amount of electricity sold directly to retail (end-use) customers (power that is not re-sold or distributed by another entity). Include unbilled electricity provided to affiliated and non-affiliated entities, excluding power provided as part of a tolling agreement. By entering a value in this cell, you will be required to file the Form EIA-861 "Annual Electric Power Industry Report," for more detailed information on the nature of the retail sales.
8. **Sales for Resale:** Report the amount of electricity sold for resale (wholesale sales in MWh). If data are entered for this item, you must complete SCHEDULE 7.
9. **Other Outgoing Electricity:** Report all other outgoing electricity from the facility, such as tolling agreements, transfers, and exchanges. Specify the nature of Other Outgoing Electricity on Schedule 9, Comments.
10. **Total Disposition:** The sum of station use, direct use, retail sales, sales for resale, and other outgoing electricity is automatically calculated and displayed. Total Disposition must equal Total Sources (see above).

**SCHEDULE 7. ANNUAL REVENUES FROM SALES FOR RESALE**

**Required Respondents:** To be completed by respondents who report a positive value on SCHEDULE 6, Disposition of Electricity, Item 8, Sales for Resale.

"Sales for Resale" is energy supplied to other electric utilities, cooperatives, municipalities, Federal and



State electric agencies, power marketers, or other entities for resale to end-use consumers. This excludes energy supplied under tolling agreements that is intended for resale to end use customers. Report energy supplied under tolling agreements in "Other Outgoing Electricity." Report all revenue from Sales for Resale in thousand dollars to the nearest whole number.

## **SCHEDULE 8. ANNUAL ENVIRONMENTAL INFORMATION**

**Required Respondents:** SCHEDULE 8 is filed annually and must be reported by steam-electric (thermoelectric) power plants, including nuclear and combined-cycle plants, with a total steam turbine capacity of 10 megawatts and above. Parts A through F are required for plants 100 MW and above, and only Parts C, E and F are required for plants from 10 megawatts to less than 100 MW.

- *If you file the EIA-923 monthly, this schedule is completed on the Form EIA-923 Supplemental and is filed annually.*
- *If you file the EIA-923 annually, this schedule is completed on the Form EIA-923 Annual.*

### **SCHEDULE 8. PART A. ANNUAL BYPRODUCT DISPOSITION**

1. If no byproduct was produced, place a check in the checkbox labeled NO BYPRODUCTS.
2. If a byproduct is disposed of at no cost, enter the quantity of the byproduct under the appropriate column and make a footnote entry on SCHEDULE 9 stating that no money was exchanged for the quantity indicated. If there was a cost for disposal, make sure there is a corresponding entry on SCHEDULE 8, PART B, for collection and/or disposal costs. Costs for gypsum disposal should be reported on SCHEDULE 8, PART B, column 5, under "Disposal," with a footnote entry on SCHEDULE 9. Entries on SCHEDULE 8, PART A, in the Sold column, must be compatible with entries on SCHEDULE 8, PART B, columns 11 through 16, Byproduct Sales Revenue. If the byproduct was distributed in several different ways (for example, the byproduct was placed in a landfill and then later sold), report the end disposition of the byproduct and provide a comment on SCHEDULE 9 explaining all previous dispositions.
3. Do not include byproducts sold under "Used On-Site."
4. **Fly ash from standard boiler/primary particulate collection device (PCD) units** includes those with no flue gas desulfurization (FGD) system or with FGD systems located downstream of the PCD.
5. **Fly ash from units with dry FGD** includes spray dryer or duct injection systems where Fly Ash and FGD byproducts are collected in the same PCD. It does not include Fluidized Bed Combustion (FBC) units.
6. **Fly ash from FBC units** includes fly ash from fluidized bed combustion (FBC) units.
7. **Bottom ash from standard boiler units** includes boiler slag from slagging combustors. It does not include Bottom (Bed) Ash from FBC units or slag from coal gasification units.
8. **Bottom (bed) ash from FBC units** includes bottom (bed) ash from fluidized bed combustion (FBC) units.
9. **FGD Gypsum** is defined as byproducts that are greater than 75 percent  $\text{CaSO}_4 \bullet 2\text{H}_2\text{O}$  by weight.
10. **Other FGD byproducts** includes all FGD byproducts not reported in **Fly ash from units with dry FGD units; Fly ash from FBC units; Bottom ash from standard boiler units; Bottom (bed) ash from FBC units; and FGD gypsum** along with additives used to stabilize the FGD byproducts.
11. **Ash from coal gasification (IGCC) units** includes slag or solids extracted from the bottom of the gasifier as well as fly ash removed downstream of the gasifier.
12. **Other:** Enter amount of other by-products. Specify the by-product on Schedule 9, Comments.
13. **Steam sales** must be reported in million Btu (MMBtu).

### **SCHEDULE 8. PART B. FINANCIAL INFORMATION RELATED TO COMBUSTION BYPRODUCTS**

U.S. Department of Energy U.S. Energy Information Administration Form EIA-923 (2011)	<b>POWER PLANT OPERATIONS REPORT INSTRUCTIONS</b>	<b>Form Approval OMB No. 1905-0129 Approval Expires: 10/31/2013 Burden: 2.8 Hours</b>
	<ol style="list-style-type: none"> <li>1. All entries should be reported in thousand dollars to the nearest whole number.</li> <li>2. For all <b>Operation and Maintenance (O&amp;M) Expenditures During Year</b>, costs should be provided for both collection and disposal of the indicated byproducts. If the collection and disposal costs cannot be separated, place the total cost under <b>Collection</b>, and provide a comment on SCHEDULE 9 indicating that the costs cannot be separated. All operation and maintenance expenditures should exclude depreciation expense, cost of electricity consumed, and fuel differential expense (i.e., extra costs of cleaner, thus more expensive fuel). Include all contract and self-service pollution abatement operation and maintenance expenditures for each line item.</li> <li>3. For column 1, <b>Fly Ash</b>, and column 2, <b>Bottom Ash</b>, expenditures cover all material and labor costs including equipment operation and maintenance costs (such as particulate collectors, conveyors, hoppers, etc.) associated with the collection and disposal of the byproducts. Record expenditures for IGCC slag or fly ash collection/disposal in Column (1) or Column (2), respectively.</li> <li>4. For column 3, <b>Flue Gas Desulfurization</b>, expenditures cover all material and labor costs including equipment O&amp;M costs associated with the collection and disposal of the sulfur byproduct.</li> <li>5. For column 4, <b>Water Pollution Abatement</b>, expenditures cover all operation and maintenance costs for material and/or supplies and labor costs including equipment operation and maintenance (pumps, pipes, settling ponds, monitoring equipment, etc.), chemicals, and contracted disposal costs. Collection costs include any expenditure incurred once the water that is used at the plant is drawn from its source. Begin calculating expenditures at the point of the water intake. Disposal costs include any expenditure incurred once the water that is used at the plant is discharged. Begin calculating disposal expenditures at the water outlet (i.e., cooling costs).</li> <li>6. For column 5, <b>Other Pollution Abatement</b>, operation and maintenance expenditures are those not allocated to one particular expenditure (e.g., expenditures to operate an environmental protection office or lab). Include expenses for conducting environmental studies for expansion or reduction of operation. Exclude all expenses for health, safety, employee comfort (OSHA), environmental aesthetics, research and development, taxes, fines, permits, legal fees, Superfund taxes, and contributions. Define other pollution abatement(s) in a comment on SCHEDULE 9.</li> <li>7. For <b>Capital Expenditures for New Structures and Equipment during Year, Excluding Land and Interest Expense</b>, report all pollution abatement capital expenditures for new structures and/or equipment made during the reporting year regardless of the date they may become operational. Columns 7, 8, 9, and 10 should not be left blank. ENTER ZERO if the item is not applicable or an estimate is not available, and enter a comment in SCHEDULE 9. Specify the nature of the expenditures for these items in a comment on SCHEDULE 9.</li> <li>8. For column 7, <b>Air Pollution Abatement</b>, report new structures and/or equipment purchased to reduce, monitor, or eliminate airborne pollutants, including particulate matter (dust, smoke, fly ash, dirt, etc.), sulfur dioxides, nitrogen oxides, carbon monoxide, hydrocarbons, odors, and other pollutants. Examples of air pollution abatement structures/equipment include flue gas particulate collectors, FGD units, continuous emissions monitoring equipment (CEMs), and nitrogen oxide control devices. Specify new structures/equipment in a comment on SCHEDULE 9.</li> <li>9. For column 8, <b>Water Pollution Abatement</b>, report new structures and/or equipment purchased to reduce, monitor, or eliminate waterborne pollutants, including chlorine, phosphates, acids, bases, hydrocarbons, sewage, and other pollutants. Examples include structures/equipment used to treat thermal pollution; cooling, boiler, and cooling tower blowdown water; coal pile runoff; and fly ash waste water. Water pollution abatement excludes expenditures for treatment of water prior to use at the plant. Specify new structures/equipment in a comment on SCHEDULE 9.</li> <li>10. For column 9, <b>Solid/Contained Waste</b>, report new structures/equipment purchased to collect and dispose of objectionable solids or contained liquids. Examples include purchases of storage facilities,</li> </ol>	

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<p>trucks, etc., to collect, store, and dispose of solid/contained waste. Include equipment used for handling solid/contained waste generated as a result of air and water pollution abatement. Specify new structures/equipment in a comment on SCHEDULE 9.</p> <p>11. For column 10, <b>Other Pollution Abatement</b>, report amortizable expenses and purchases of new structures and or equipment when such purchases are not allocated to a particular unit or item. Examples include charges for the purchases of facilities to control hazardous waste, radiation, and noise pollution. Exclude all equipment purchased for aesthetics purposes. Specify new structures/equipment in a comment on SCHEDULE 9.</p> <p>12. If <b>Byproduct Sales Revenue During Year</b> items are not applicable, ENTER ZERO in Total, column 16, only. Report the revenue, if any, for each listed byproduct. Specify "other" revenue in a comment on SCHEDULE 9. Entries must be compatible with the entries on SCHEDULE 8, PART A, "Sold" column. If the revenue for a byproduct is less than \$500, but more than zero dollars, enter a zero and enter a comment on SCHEDULE 9 with the actual dollar amount. Revenue for gypsum should be reported on SCHEDULE 8, PART B, column 14, with a comment on SCHEDULE 9. Report the total revenue for the sale of byproducts in column 16. If the revenue reported was for the sale of stockpiled byproducts from previous years, make a comment on SCHEDULE 9.</p> <p style="text-align: center;"><b>SCHEDULE 8. PART C. BOILER INFORMATION</b>  <b>NITROGEN OXIDE EMISSION CONTROLS</b></p> <p>1. <b>No NO<sub>x</sub> Controls:</b> Place a check in this box if the plant has no NO<sub>x</sub> control equipment or processes.</p> <p>2. <b>Boiler ID:</b> The boiler ID must match and correspond to the boiler ID and associated information reported on the EIA-860. The boiler ID is prepopulated for e-file users. If it is not prepopulated, choose the boiler ID from the drop down list. If the boiler ID is not on the list, contact EIA.</p> <p>3. <b>NO<sub>x</sub> Control In-Service (hours):</b> Enter the total hours the nitrogen oxide control was in service during the reporting period (to the nearest hour).</p> <p>4. <b>For Entire Year,</b> enter the controlled nitrogen oxide emission rate, in pounds per million Btu of the fuel, based on data from the continuous emission monitoring system (CEMS) where possible. Where CEMS data are not available, report the controlled nitrogen oxide emission rate based on the method used to report emissions data to environmental authorities.</p> <p>5. <b>For May through September Only,</b> enter the controlled nitrogen oxide emission rate, in pounds per million Btu of the fuel, based on data from CEMS where possible. Where CEMS data are not available, report controlled nitrogen oxide rates based on the method used to report emissions data to environmental authorities. The summer emission rate may be assumed to be equivalent to the annual emission rate where identical nitrogen oxide controls are used year round.</p> <p style="text-align: center;"><b>SCHEDULE 8. PART D. MONTHLY COOLING SYSTEM OPERATIONS</b></p> <p><b>NOTE:</b> All steam-electric plants of 100 MW nameplate capacity or greater, including combined-cycle and nuclear energy plants, must respond to this schedule. <b>A separate page must be completed for each month.</b></p> <p>1. If actual data are not available, provide an estimated value.</p> <p>2. If the source of cooling water is a well or municipal water system, do not complete the Cooling Water Temperature sections.</p> <p>3. <b>Cooling System ID or PLANT:</b> The cooling system ID must match and correspond to the data reported on the EIA-860. The ID is prepopulated for e-file users. If the ID is not prepopulated, choose the ID from the drop down list. If the cooling system ID is not on the list, contact EIA to have new IDs added. If the data to be reported are for the entire plant (because the data cannot be broken down by separate cooling systems), choose "PLANT" from the drop-down list.</p> <p>4. <b>Cooling System Status:</b> Select from the equipment status codes on Table 4.</p>		

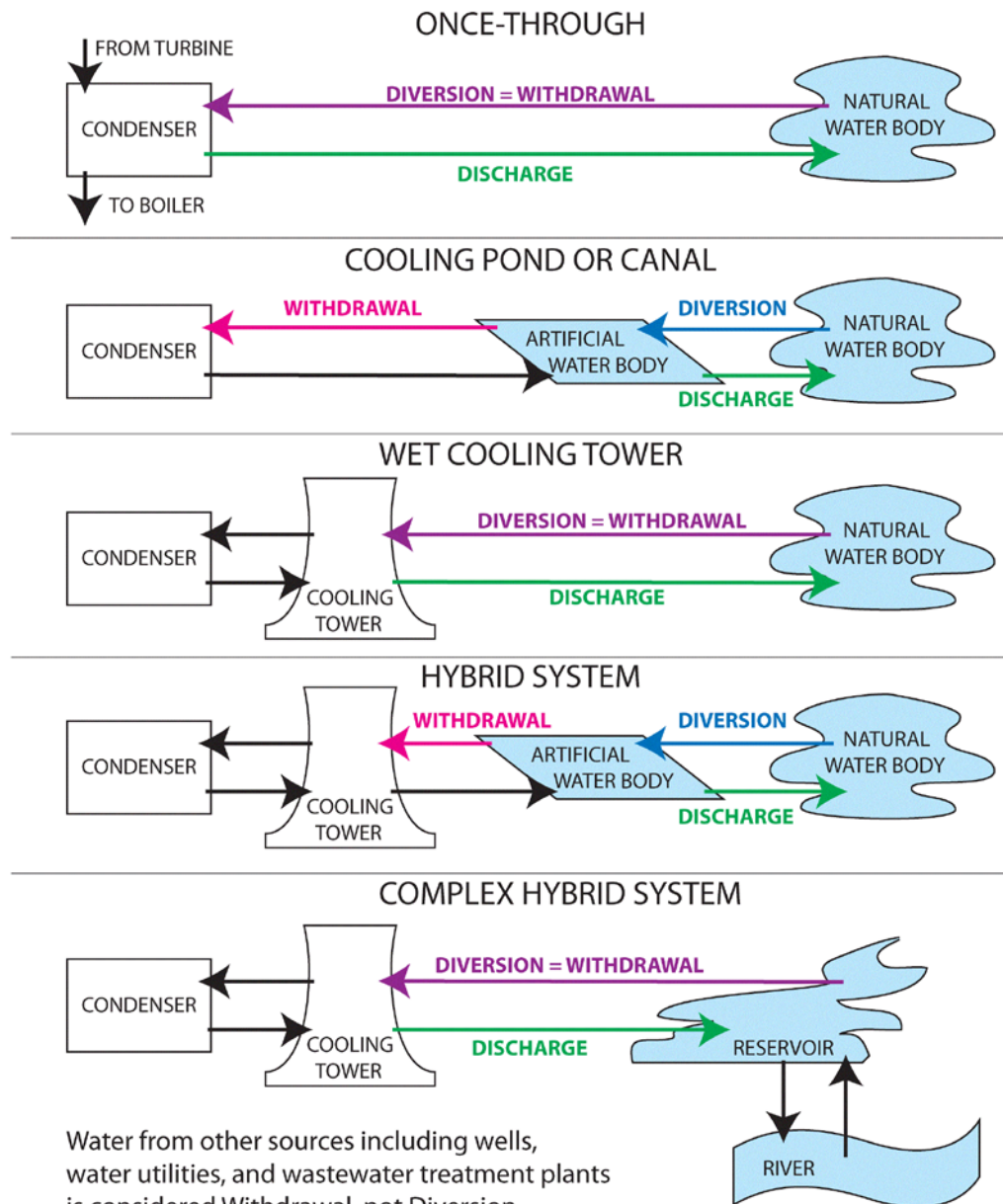
**PRIME MOVER  
CODES AND  
DESCRIPTION**

**Table 4**

Code	System Status
OP	Operating (in commercial service or out of service less than 365 days)
OS	Out of service (365 days or longer)
RE	Retired (no longer in service and not expected to be returned to service)
SB	Standby (or inactive reserve); i.e., not normally used, but available for service)
SC	Cold Standby (Reserve); deactivated (usually requires 3 to 6 months to reactivate)
TS	Operating under test conditions (not in commercial service)

5. **Hours in Service:** Enter the hours each cooling system was in service for the reporting period.
6. **Monthly Amount of Chlorine Added to Cooling Water** pertains solely to elemental chlorine. If a compound is used, determine the amount of chlorine in the compound. Report amount of chlorine to the nearest whole number in thousand pounds.
7. **Average Monthly Rate of Cooling Water** data should be the rate of flow reported in cubic feet per second (to the nearest 0.1 ft<sup>3</sup>). *Diversion* is the water moved from a watercourse without immediate beneficial use, for purposes such as filling a cooling pond or adding water to a lake from which thermoelectric power water withdrawals can occur. *Withdrawal* is the water removed from a water body for beneficial use such as cooling water, boiler make-up water, ash sluicing, and dust suppression. *Discharge* is the water returned to a water body, not necessarily the same water body as the withdrawal. (Do not include water discharged to a recirculation pond that will be re-used at this power plant.) *Consumption* is the water that is withdrawn from a water body and not returned (discharged), because of evaporation losses and onsite consumption such as for dust control and flue gas desulfurization. The following figure is provided to clarify cooling terms and configurations.

**Figure 1 -- Cooling Systems**



8. For **Measured or Estimated**, if all data reported under either the Average Monthly Rate of Cooling Water section or the Intake or Discharge Temperature section have been measured, choose one of the choices for "Measured" from the drop-down list. If one or more entries have been estimated in a particular section choose one of the estimation methodologies given in the drop-down list for that section. If "Other" is chosen, provide details of the estimation method on Schedule 9.
9. **For the Cooling Water Temperature** sections, report the Average Monthly Temperature and the Maximum Temperature for the Month in degrees Fahrenheit to the nearest whole number, measured at the withdrawal point from the natural body of water or cooling pond in the case where water is first diverted and at the discharge point into the natural body of water.

**SCHEDULE 8. PART E. FLUE GAS PARTICULATE COLLECTOR INFORMATION**

1. **Flue Gas Particulate Collector ID:** The flue gas particulate collector ID must match and correspond to the data reported on the Form EIA-860. The ID is prepopulated for e-file users. For an ID not prepopulated, choose the ID from the drop down list. If the ID is not on the list, contact EIA.
2. **FGP Collector Status:** Select from the equipment status codes in Table 5.

**ENERGY SOURCE  
CODES AND HEAT  
CONTENT**

**Table 5**

Code	Status
CN	Cancelled (previously reported as "planned")
CO	New unit under construction
OP	Operating (in commercial service or out of service within 365 days)
OS	Out of service (365 days or longer)
PL	Planned (on order or expected to go into commercial service within 5 years)
RE	Retired (no longer in service and not expected to be returned to service)
SC	Cold Standby (Reserve); deactivated (usually requires 3 – 6 months to reactivate)
TS	Operating under test conditions (not in commercial service)

3. **Hours in Service:** Enter the hours each collector was in service for the reporting period.
4. For **Typical Particulate Emissions Rate**, enter the particulate emission rate based on the annual operating factor (to nearest 0.01 pound per million Btu).
5. For **Removal Efficiency of Particulate Matter at Annual Operating Factor** and **At 100-Percent Load or Tested Efficiency**, if the collector has a combination of components (i.e., a baghouse and an electrostatic precipitator) enter both components as one unit in one column. If the particulate collector also removes sulfur dioxide, enter the particulate scrubbing process in this section and the desulfurization process on SCHEDULE 8, PART F, FLUE GAS DESULFURIZATION UNIT INFORMATION ANNUAL OPERATIONS.
6. For **Removal Efficiency of Particulate Matter at Annual Operating Factor**, enter removal efficiency based on the annual operating factor. Annual operating factor is defined as annual fuel consumption divided by the product of design firing rate and hours of operation per year. If actual data are

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<p>unavailable, provide estimates based on equipment design performance specifications.</p> <ol style="list-style-type: none"> <li>For <b>At 100-Percent Load or Tested Efficiency</b>, if the test was conducted, but not at 100-percent load, enter the efficiency and provide the load at which the test was conducted in a comment on SCHEDULE 9. If no test has been conducted, ENTER ZERO in the column and leave the test date blank. Test results should not be reported if there was no test date.</li> <li>For <b>Date of Most Recent Efficiency Test</b>, enter test date. If an efficiency test has never been performed, enter "00-0000" and enter a comment on SCHEDULE 9.</li> </ol> <p style="text-align: center;"><b>SCHEDULE 8. PART F. FLUE GAS DESULFURIZATION UNIT INFORMATION</b>  <b>ANNUAL OPERATIONS</b></p> <ol style="list-style-type: none"> <li><b>Flue Gas Desulfurization Unit ID:</b> The flue gas desulfurization unit ID must match and correspond to the data reported on the Form EIA-860. The ID is prepopulated for e-file users. For an ID not prepopulated, choose the ID from the drop down list. If the ID is not on the list, contact EIA.</li> <li><b>Flue Gas Desulfurization Unit Status</b>, as of January 1 following the end of the reporting year. Select from the equipment status codes listed in Table 6.</li> </ol>		

**Table 6**

<b>Code</b>	<b>Status</b>
CN	Cancelled (previously reported as "planned")
CO	New unit under construction
OP	Operating (in commercial service or out of service less than 365 days)
OS	Out of service (365 days or longer)
PL	Planned (on order and expected to go into commercial service within 5 years)
RE	Retired (no longer in service and not expected to be returned to service)
SB	Standby (or inactive service); i.e. not normally used, but available for service
SC	Cold Standby (Reserve); deactivated (usually requires 3 – 6 months to reactivate)
TS	Operating under test conditions (not in commercial service)

3. For **Hours in Service**, enter the total number of hours one or more trains (or modules) were in operation; do not report for individual trains.
4. **Quantity of FGD Sorbent Used:** Enter the quantity of FGD sorbent used during the reporting period (to the nearest 0.1 thousand tons).
5. **Electrical Energy Consumption:** Enter the Electrical Energy Consumed by this Unit during the reporting period (in megawatthours).
6. For **Estimated Removal Efficiency for Sulfur Dioxide at Annual Operating Factor** and **At 100 Percent Load or Tested Efficiency**, if the FGD unit also removes particulate matter, enter the desulfurization process in this section and the particulate scrubbing process on SCHEDULE 8. PART E, FLUE GAS PARTICULATE COLLECTOR INFORMATION.
7. For **Estimated Removal Efficiency for Sulfur Dioxide at Annual Operating Factor**, enter removal efficiency based on the annual operating factor. Annual operating factor is defined as annual fuel consumption divided by the product of design firing rate and hours of operation per year. If actual data are unavailable, provide estimates based on equipment design performance specifications.
8. For **Estimated Removal Efficiency for Sulfur Dioxide at 100-Percent Load or Tested Efficiency**, if the test was conducted, but not at 100-percent load, enter the efficiency, and provide the load at which the test was conducted in a comment on SCHEDULE 9. If no test was conducted, enter zero for the efficiency and leave the test data blank. Test results should not be given without a test date.
9. Report the **Operation and Maintenance Expenditures during the Year**, excluding electricity, in thousand dollars.

**SCHEDULE 9. COMMENTS**

This schedule provides additional space for comments. Please identify schedule, item, and identifying information (e.g., plant code, boiler ID, generator ID, prime mover) for each comment. If plant is sold, provide purchaser's name, a telephone number (if available), and date of sale.



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**Table 7**

<b>Prime Mover Code</b>	<b>Prime Mover Description</b>
BT	Turbines Used in a Binary Cycle (such as used for geothermal applications)
CA	Combined-Cycle – Steam Part
CE	Compressed Air Energy Storage
CP	Energy Storage, Concentrated Solar Power
CS	Combined-Cycle Single-Shaft Combustion turbine and steam turbine share a single generator
CT	Combined-Cycle Combustion Turbine Part
FC	Fuel Cell
GT	Combustion (Gas) Turbine (including jet engine design)
HA	Hydrokinetic, Axial Flow Turbine
HB	Hydrokinetic, Wave Buoy
HK	Hydrokinetic, Other
HY	Hydraulic Turbine (including turbines associated with delivery of water by pipeline)
IC	Internal Combustion (diesel, piston) Engine
OT	Other – Specify on SCHEDULE 9.
PS	Hydraulic Turbine – Reversible (pumped storage)
PV	Photovoltaic
ST	Steam Turbine (including nuclear, geothermal and solar steam, excluding combined-cycle)
WT	Wind Turbine, Onshore
WTO	Wind Turbine, Offshore

**Table 8**

	Energy Source Code	Unit Label	“Higher Heating Value” Range		Energy Source Description
			MMBtu Lower	MMBtu Upper	
Fossil Fuels					
Coal	ANT	tons	22	28	Anthracite Coal
	BIT	tons	20	29	Bituminous Coal
	LIG	tons	10	14.5	Lignite Coal
	SUB	tons	15	20	Subbituminous Coal
	WC	tons	6.5	16	Waste/Other Coal (including anthracite culm, bituminous gob, fine coal, lignite waste, waste coal)
	RC	tons	20	29	Refined Coal
Petroleum Products	DFO	barrels	5.5	6.2	Distillate Fuel Oil (including diesel, No. 1, No. 2, and No. 4 fuel oils.
	JF	barrels	5	6	Jet Fuel
	KER	barrels	5.6	6.1	Kerosene
	PC	tons	24	30	Petroleum Coke
	RFO	barrels	5.8	6.8	Residual Fuel Oil (including No. 5 and No. 6 fuel oils, and bunker C fuel oil.
	WO	barrels	3.0	5.8	Waste/Other Oil (including crude oil, liquid butane, liquid propane, naphtha, oil waste, re-refined motor oil, sludge oil, tar oil, or other petroleum-based liquid wastes)
Natural Gas and Other Gases	BFG	Mcf	0.07	0.12	Blast Furnace Gas
	NG	Mcf	0.8	1.1	Natural Gas
	OG	Mcf	0.32	3.3	Other Gas (specify in Comment Section of SCHEDULE 9)
	PG	Mcf	2.5	2.75	Gaseous Propane
	SG	Mcf	0.2	1.1	Synthetic Gas
	SGC	Mcf	0.2	0.3	Coal-Derived Synthetic Gas
Renewable Fuels					
Solid Renewable Fuels	AB	tons	7	18	Agricultural By-Products
	MSW	tons	9	12	Municipal Solid Waste
	OBS	tons	8	25	Other Biomass Solids (specify in Comment Section of SCHEDULE 9)
	WDS	tons	7	18	Wood/Wood Waste Solids (including paper

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						pellets, railroad ties, utility poles, wood chips, bark, and wood waste solids)

**Table 8 Continued**

	Energy Source Code	Unit Label	“Higher Heating Value” Range		Energy Source Description
			MMBtu Lower	MMBtu Upper	
Renewable Fuels (cont.)					
Liquid Renewable (Biomass) Fuels	OBL	barrels	3.5	4	Other Biomass Liquids (specify in Comment Section of SCHEDULE 9)
	SLW	tons	10	16	Sludge Waste
	BLQ	tons	10	14	Black Liquor
	WDL	barrels	8	14	Wood Waste Liquids excluding Black Liquor (includes red liquor, sludge wood, spent sulfite liquor, and other wood-based liquids)
Gaseous Renewable (Biomass) Fuels	LFG	Mcf	0.3	0.6	Landfill Gas
	OBG	Mcf	0.36	1.6	Other Biomass Gas (includes digester gas, methane, and other biomass gasses) (specify in Comment Section of SCHEDULE 9)
All Other Renewable Fuels	SUN	N/A	0	0	Solar
	WND	N/A	0	0	Wind
	GEO	N/A	0	0	Geothermal
	WAT	N/A	0	0	Water at a <b>Conventional</b> Hydroelectric Turbine, and water used in Wave Buoy Hydrokinetic Technology, Current Hydrokinetic Technology, and Tidal Hydrokinetic Technology.
All Other Fuels					
All Other Fuels	WAT	MWh	0	0	Pumping Energy for Reversible (Pumped Storage) Hydroelectric Turbine
	N/A	MWh	0	0	Compressed Air
	NUC	N/A	0	0	Nuclear Uranium, Plutonium, Thorium
	PUR	N/A	0	0	Purchased Steam
	WH	N/A	0	0	Waste heat not directly attributed to a fuel source (WH should only be reported where the fuel source for the waste heat is undetermined, and for combined-cycle steam turbines that do not have supplemental firing.)
	TDF	tons	16	32	Tire-derived Fuels
	OTH	N/A	0	0	Specify in Comment Section of SCHEDULE 9.

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Plant Name: _____ Plant ID: _____ State: _____ Reporting Month/Year: _____		
<b>GLOSSARY</b> <p>The glossary for this form is available online at the following URL: <a href="http://www.eia.gov/glossary/index.html">http://www.eia.gov/glossary/index.html</a></p>		
<b>SANCTIONS</b> <p>The timely submission of Form EIA-923 by those required to report is mandatory under Section 13(b) of the Federal Energy Administration Act of 1974 (FEAA) (Public Law 93-275), as amended. Failure to respond may result in a penalty of not more than \$2,750 per day for each civil violation, or a fine of not more than \$5,000 per day for each criminal violation. The government may bring a civil action to prohibit reporting violations, which may result in a temporary restraining order or a preliminary or permanent injunction without bond. In such civil action, the court may also issue mandatory injunctions commanding any person to comply with these reporting requirements. Title 18 U.S.C. 1001 makes it a criminal offense for any person knowingly and willingly to make to any Agency or Department of the United States any false, fictitious, or fraudulent statements as to any matter within its jurisdiction.</p>		
<b>REPORTING BURDEN</b> <p>Public reporting burden for this collection of information is estimated to average 2.7 hours per response for monthly respondents, 3.2 hours per response for annual respondents, and 3.4 hours per response for annual respondents with boiler level data, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. The weighted average burden for the Form EIA-923 is 2.8 hours per response. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the EIA, Statistics and Methods Group, EI-70, 1000 Independence Avenue S.W., Forrestal Building, Washington, D.C. 20585-0670; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, D.C. 20503. A person is not required to respond to the collection of information unless the form displays a valid OMB number.</p>		
<b>DISCLOSURE OF INFORMATION</b> <p>The "Total Delivered Cost" of coal, natural gas, and petroleum received at nonutility power plants and "Commodity Cost" information for all plants in SCHEDULE 2 and "Previous Month's Ending Stocks" and "Stocks at End of Reporting Period" information reported on SCHEDULE 4 will be protected and not disclosed to the extent that it satisfies the criteria for exemption under the Freedom of Information Act (FOIA), 5 U.S.C. §552, the Department of Energy (DOE) regulations, 10 C.F.R. §1004.11, implementing the FOIA, and the Trade Secrets Act, 18 U.S.C. §1905. All other information reported on Form EIA-923 is considered public information and may be publicly released in company identifiable form.</p> <p>The Federal Energy Administration Act requires the EIA to provide company-specific data to other Federal agencies when requested for official use. The information reported on this form may also be made available, upon request, to another component of the Department of Energy (DOE), to any Committee of Congress, the Government Accountability Office, or other Federal agencies authorized by law to receive such information. A court of competent jurisdiction may obtain this information in response to an order. The information may be used for any non-statistical purposes such as administrative, regulatory, law enforcement, or adjudicatory purposes.</p> <p>Disclosure limitation procedures are applied to the protected statistical data published from SCHEDULES 2 and 4 on Form EIA-923 to ensure that the risk of disclosure of identifiable information is very small.</p>		

**POWER PLANT OPERATIONS  
REPORT**

Form Approval  
OMB No. 1905-0129  
Approval Expires: 10/31/2013  
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**NOTICE:** This report is **mandatory** under the Federal Energy Administration Act of 1974 (Public Law 93-275). Failure to comply may result in criminal fines, civil penalties and other sanctions as provided by law. For further information concerning sanctions and data protections see the provision on sanctions and the provision concerning confidentiality of information in the instructions. **Title 18 USC 1001 makes it a criminal offense for any person knowingly and willingly to make to any Agency or Department of the United States any false, fictitious, or fraudulent statements as to any matter within its jurisdiction.**

**SCHEDULE 1. IDENTIFICATION**

**Survey Contact**

First Name: \_\_\_\_\_ Last Name: \_\_\_\_\_  
Title: \_\_\_\_\_  
Telephone (include extension): \_\_\_\_\_ Fax: \_\_\_\_\_  
Email: \_\_\_\_\_  
Address: \_\_\_\_\_ City: \_\_\_\_\_  
State: \_\_\_\_\_ Zip: \_\_\_\_\_

**Supervisor of Contact Person for Survey**

First Name: \_\_\_\_\_ Last Name: \_\_\_\_\_  
Title: \_\_\_\_\_  
Telephone (include extension): \_\_\_\_\_ Fax: \_\_\_\_\_  
Email: \_\_\_\_\_  
Address: \_\_\_\_\_ City: \_\_\_\_\_  
State: \_\_\_\_\_ Zip: \_\_\_\_\_

**Report For**

Company Name: \_\_\_\_\_  
Plant Name: \_\_\_\_\_ Regulated ☐ Yes ☐ No  
Plant ID: \_\_\_\_\_ Plant County: \_\_\_\_\_ CHP ☐ Yes ☐ No  
Address: \_\_\_\_\_ CHP Efficiency \_\_\_\_\_ %  
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_  
Reporting Month/Year: \_\_\_\_\_

**Contacts**

For questions related to E-filing:	<a href="mailto:EIASurveyHelpCenter@eia.gov">EIASurveyHelpCenter@eia.gov</a>	202-586-9595
For questions about the data requested on this form:		
Schedules 1 & 4:	Chris Cassar <a href="mailto:christopher.cassar@eia.gov">christopher.cassar@eia.gov</a>	202-586-5448
Schedule 2:	Rebecca Peterson <a href="mailto:rebecca.peterson@eia.gov">rebecca.peterson@eia.gov</a>	202-586-4509
Schedules 3 & 5:	Ron Hankey <a href="mailto:ghankey@eia.gov">ghankey@eia.gov</a>	202-586-2630
Schedules 6, 7, & 8:	Channele Wirman <a href="mailto:channele.wirman@eia.gov">channele.wirman@eia.gov</a>	202-586-5356
EIA-923 Fax:	202-287-1959 or 202-287-1960	
EIA-923 Mailbox:	<a href="mailto:EIA-923@eia.gov">EIA-923@eia.gov</a>	

Plant Name: \_\_\_\_\_

Plant ID: \_\_\_\_\_ State: \_\_\_\_\_ Reporting Month/Year: \_\_\_\_\_

**SCHEDULE 2. PAGE 1. COST AND QUALITY OF FUEL PURCHASES – PLANT LEVEL**  
**CONTRACT INFORMATION, RECEIPTS, AND COSTS**  
**For fossil-fueled plants 50 megawatts and above**

<input type="checkbox"/> No Receipts (If applicable, please check.)			<input type="checkbox"/> Is there a fuel tolling agreement in place for this plant? (If applicable, please check.)			
Contract Information			Receipts		Cost per Unit	
Fuel Supplier Name	Contract Type	Contract Expiration Date	Energy Source	Quantity Purchased (solids in tons, liquids in barrels, gases in Mcf)	Total Delivered Cost (cents per MMBtu, to the nearest 0.1)	Commodity Cost (Coal, Natural Gas) (cents per MMBtu, to the nearest 0.1)



Plant ID: \_\_\_\_\_ State: \_\_\_\_\_ Reporting Month/Year: \_\_\_\_\_

[illegible]

Plant ID: \_\_\_\_\_ State: \_\_\_\_\_ Reporting Month/Year: \_\_\_\_\_

[illegible]

Plant Name: \_\_\_\_\_

Plant ID: \_\_\_\_\_ State: \_\_\_\_\_ Reporting Month/Year: \_\_\_\_\_

**SCHEDULE 3. PART A. BOILER INFORMATION FOR STEAM-ELECTRIC ORGANIC-FUELED  
PLANTS — FUEL CONSUMPTION**

This schedule must be completed by plants with a total steam turbine capacity of **10 megawatts and above** that burn organic fuels. Report only fuels consumed in the boilers, or for HRSGs in duct burners. If no fuel is consumed for the HRSG at combined-cycle plants, report zero. Do not leave blank. Report consumption in combustion turbines or IC engines on SCHEDULE 3. PART B.

If this does not apply, go to SCHEDULE 3. PART B.

Complete a separate row for each Boiler ID.

☐ Did any boiler produce steam for purposes other than electric power generation during this reporting period?  
(If applicable, please check.)

Prime Mover Code	Boiler ID	Boiler Status	Energy Source  (See Table 8 on pages 22 through 23 in the Instructions.)	Quantity Consumed  (Enter zero when a fuel has no consumption for this reporting period)	Type of Physical Units  (tons, barrels, or Mcf)	Average Heat Content  (as burned, to nearest 0.001 MMBtu per ton, barrel, or Mcf)	Sulfur Content  (coal, pet coke, RFO, and WO, to nearest 0.01%)	Ash Content  (coal and PC only, to nearest 0.1%)

If you reported the category of OTH, OBS, OBG, OBL, or OG in the Energy Source column, please identify the category and specific fuel name below. For example, "The OBG gas is methane."

\_\_\_\_\_.

Plant Name: \_\_\_\_\_

Plant ID: \_\_\_\_\_ State: \_\_\_\_\_ Reporting Month/Year: \_\_\_\_\_

**SCHEDULE 3. PART B. FUEL CONSUMPTION – PRIME MOVER LEVEL**

Report fuel consumed by plants with organic-fueled steam and combined-cycle steam capacity **under 10 MW**, and all combustion turbines, IC engines, fuel cells, pumped storage hydroelectric units and compressed air units. Aggregate quantity consumed for prime movers of a single type. In other words, all natural gas consumed by all combustion gas turbines should be reported as one number. Report pumping energy in megawatthours for pumped-storage plants and compressed air units.

Complete a separate row for each Prime Mover Type. (See Table 7 of the instructions.).

- ☐ Was steam produced for purposes other than electric power generation during this reporting period?  
(If applicable, please check.)

Prime Mover Code	Energy Source  (See Table 8 on pages 22 through 23 in the Inst <sup>1</sup> ctions.)	Quantity Consumed  (Enter zero when a fuel has no consumption for this reporting period.)	Type of Physical Units  (tons, barrels, or Mcf)	Average Heat Content  (MMBtu per ton, barrel, or Mcf)

If you reported the category of OTH, OBS, OBG, OBL, or OG in the Energy Source column, please identify the category and specific fuel name below. For example, "The OBG gas is methane."

\_\_\_\_\_

\_\_\_\_\_

Plant Name: \_\_\_\_\_

Plant ID: \_\_\_\_\_ State: \_\_\_\_\_ Reporting Month/Year: \_\_\_\_\_

**SCHEDULE 4. FOSSIL FUEL STOCKS AT THE END OF THE REPORTING PERIOD AND DATA BALANCE  
For Coal, Oil, and Natural Gas Plants**

Report stocks for the following fuels:

Coal (tons)

Residual oil (No. 5 and No. 6 fuel oils) (barrels)

Distillate-type oils (including diesel oil, No. 2 oil, jet fuel and kerosene) (barrels)

Petroleum coke (tons)

Include back-up fuels.

Include start-up and flame-stabilization fuels.

Do not report stocks for waste coal, natural gas, or wood waste. Do enter a comment if the natural gas balance does not equal zero.

Stocks held off-site that cannot be assigned to an individual plant are to be reported as stocks held at a central storage site. Each central storage site must be reported separately. New sites should be indicated in the Comment Section, located in SCHEDULE 9 of this form.

Enter zero if the plant has no stocks. Do not leave blank.

Enter adjustments to stocks. An adjustment can be positive or negative. See instructions for additional information. Provide a comment to explain adjustments in the adjustments grid.

Enter a comment if the balance does not equal zero in the balance grid.

Energy Source (See Table 8 in the Instructions.)	Type of Physical Units (tons, barrels, or Mcf)	Previous Month's Ending Stocks (1)	Current Month's Receipts (2)	Current Month's Consumption (3)	Ending Stocks (4)	Adjustment to Stocks* (5)	Balance** (6) $4=(1+2-3+5)$

\*Explain any adjustments below.

Adjustment (from Column 5 above)	Energy Source	Explanation

\*\*Previous Month's Stocks plus Receipts minus Consumption plus (or minus) Adjustment should equal Ending Stocks. The balance will appear in column (6). If the balance is not zero, provide an explanation below.

Balance (from Column 6 above)	Energy Source	Explanation

Plant Name: \_\_\_\_\_

Plant ID: \_\_\_\_\_ State: \_\_\_\_\_ Reporting Month/Year: \_\_\_\_\_

**SCHEDULE 5. PART A. GENERATOR INFORMATION FOR STEAM-ELECTRIC  
ORGANIC-FUELED PLANTS**

This schedule must be completed ONLY for generators at steam-electric organic-fueled plants with a total steam turbine capacity of 10 megawatts and above. Report generation for all other types of prime movers (combustion turbines, IC engines, wind, or hydro-electric turbines, and compressed air units.), and steam turbine plants with less than 10 megawatts total capacity or fueled by nuclear, solar, geothermal, or other energy sources on SCHEDULE 5. PARTS B or C. Generation reported on SCHEDULE 5, Part A corresponds to the fuel consumption reported on SCHEDULE 3. Part A.

Industrial or Commercial Sector plants may report gross generation ONLY if net generation is not measured (see instructions for definition of net generation).

Complete a separate row for each Generator ID. See Generator ID information in the instructions for Schedule 5. Part A.

Prime Mover Code	Generator ID	Generator Status	Gross Generation (MWh)	Net Generation (MWh)

Plant Name: \_\_\_\_\_

Plant ID: \_\_\_\_\_ State: \_\_\_\_\_ Reporting Month/Year: \_\_\_\_\_

**SCHEDULE 5. PART B. PRIME MOVER LEVEL GENERATION**

This schedule must be completed ONLY by steam-electric organic-fueled plants with a total steam turbine capacity less than 10 megawatts, by combined-cycle plants whose steam portion of the operation is under 10 MW, and all IC engines, fuel cells, combustion turbines, pumped-storage hydroelectric turbines, and compressed air units. Generation reported on this schedule corresponds to the fuel consumption reported on SCHEDULE 3. Part B.

In the applicable Gross Generation or Net Generation cell, enter the aggregate generation for prime movers of a single type. For example, enter the total generation from all combustion turbines. Industrial or Commercial Sector plants may report gross generation ONLY if net generation is not measured (see instructions for definition of net generation).

Complete a separate row for each Prime Mover Type. (See Table 7 of the instructions.)

Prime Mover Code	Gross Generation (MWh)	Net Generation (MWh)

Plant Name: \_\_\_\_\_

Plant ID: \_\_\_\_\_ State: \_\_\_\_\_ Reporting Month/Year: \_\_\_\_\_

**SCHEDULE 5. PART C. GENERATION FROM NUCLEAR AND OTHER NONCOMBUSTIBLE ENERGY SOURCES**

This schedule must be completed by all nuclear plants and by all wind, solar, geothermal, hydroelectric, or other plants where the energy source is noncombustible, such as purchased steam or waste heat. No fuel consumption is required for these types of plants. Report generation by energy source for nuclear, wind, solar, geothermal, conventional hydroelectric and miscellaneous sources such as purchased steam or waste heat. Do not report generation at a combined-cycle plant. All combined-cycle generation is reported on SCHEDULE 5. PART A or B. Report nuclear data by generating unit.

In the applicable Gross Generation or Net Generation cell, enter the aggregate generation for prime movers of a single type. For example, enter the total generation from all combustion turbines. Industrial or Commercial Sector plants may report gross generation only if net generation is not measured (see instructions for definition of net generation).

Complete a separate row for each Prime Mover Type. (See Table 7 of the instructions.)

Prime Mover Code	Energy Source	Unit Code (nuclear)	Gross Generation (MWh)	Net Generation (MWh)



Plant Name: \_\_\_\_\_

Plant ID: \_\_\_\_\_ State: \_\_\_\_\_ Reporting Month/Year: \_\_\_\_\_

**SCHEDULE 6. NONUTILITY ANNUAL SOURCE AND DISPOSITION OF ELECTRICITY**

SCHEDULE 6 collects calendar year data (no monthly detail).

Report all generation in megawatthours (MWh) rounded to a whole number.

Source of Electricity		Disposition of Electricity	
(1) Gross Generation (Annual)		(4) Station Use	
(2) Other Incoming Electricity		(5) Direct Use (Industrial and Commercial Sector Plants, both CHP and non-CHP)	
		(6) Total Facility Use (4 + 5)	
		(7) Retail Sales to Ultimate Customers	
		(8) Sales for Resale	
		(9) Other Outgoing Electricity	
(3) Total Sources (1 + 2)		(10) Total Disposition (6 + 7 + 8 + 9)	
<b>Total Sources must equal Total Disposition (3 = 10)</b>			

Plant Name: \_\_\_\_\_

Plant ID: \_\_\_\_\_ State: \_\_\_\_\_ Reporting Month/Year: \_\_\_\_\_

**SCHEDULE 7. ANNUAL REVENUES FROM SALES FOR RESALE**

SCHEDULE 7 must be completed by respondents who entered a positive amount on SCHEDULE 6, Disposition of Electricity, Item 8, Sales for Resale.

Sales for Resale is energy supplied to other electric utilities, cooperatives, municipalities, Federal and State electric agencies, power marketers, or other entities for resale to end-use consumers.

**Annual Revenues from Sales for Resale** (in thousand dollars): \_\_\_\_\_

Plant Name: \_\_\_\_\_

Plant ID: \_\_\_\_\_ State: \_\_\_\_\_ Reporting Month/Year: \_\_\_\_\_

**SCHEDULE 8. ANNUAL ENVIRONMENTAL INFORMATION**

SCHEDULE 8. PARTS A through F are filed annually by thermoelectric power plants (organic fueled, nuclear, and combined-cycle) with a total steam turbine capacity of 10 megawatts and above. Plants with a total steam turbine capacity of 10 megawatts to less than 100 MW file only Parts C, E, and F.

**SCHEDULE 8. PART A. ANNUAL BYPRODUCT DISPOSITION**

Enter the quantity of combustion byproducts for the year by type of disposal (to nearest 0.1 thousand tons). Report sales of steam in million Btu (MMBtu). If actual data are not available, provide an estimated value.

☐ **NO BYPRODUCTS**

Byproduct	Disposal			Sale or Beneficial Use			Storage		Total
	On-Site Landfill	On-Site Ponds	Disposal Off-site	Sold	Used On-site	Used Off-site	Stored On-site	Stored Off-site	
Fly ash from standard boiler/PCD units									
Fly ash from units with dry FGD									
Fly ash from FBC units									
Bottom ash from standard boiler units									
Bottom (bed) ash from FBC units									
FGD Gypsum									
Other FGD byproducts									
Ash from coal gasification (IGCC) units									
Other (specify via footnote on SCHEDULE 9)									
Steam Sales (MMBtu)									

Plant Name: \_\_\_\_\_

Plant ID: \_\_\_\_\_ State: \_\_\_\_\_ Reporting Month/Year: \_\_\_\_\_

**SCHEDULE 8. PART B. FINANCIAL INFORMATION RELATED TO COMBUSTION BYPRODUCTS**

If actual data are not available, provide an estimated value.

**Operation and Maintenance (O&M) Expenditures During Year (Thousand Dollars)**

Type	(1) Fly Ash	(2) Bottom Ash	(3) Flue Gas Desulfurization	(4) Water Pollution Abatement	(5) Other Pollution Abatement	(6) Total (1 + 2 + 3 + 4 + 5)
Collection						
Disposal						
Other						

**Capital Expenditures for New Structures and Equipment During Year, Excluding Land and Interest Expense  
(Thousand Dollars)**

Type	(7) Air Pollution Abatement	(8) Water Pollution Abatement	(9) Solid/Contained Waste	(10) Other Pollution Abatement
Amount				

**Byproduct Sales Revenue During Year  
(Thousand Dollars)**

Type	(11) Fly Ash	(12) Bottom Ash	(13) Fly and Bottom Ash Sold Intermingled	(14) Flue Gas Desulfurization Byproducts	(15) Other Byproduct Revenue	(16) Total (11+12+13+14+15)
Amount						

Plant Name: \_\_\_\_\_

Plant ID: \_\_\_\_\_ State: \_\_\_\_\_ Reporting Month/Year: \_\_\_\_\_

**SCHEDULE 8. PART C. BOILER INFORMATION NITROGEN OXIDE EMISSION CONTROLS**

Complete a separate row for each boiler.

Note: The Boiler ID must match the Boiler ID as reported on Form EIA-860, "Annual Electric Generator Report."

☐ No NO<sub>x</sub> Controls

Boiler ID	NO <sub>x</sub> Control In-Service (hours)	NO <sub>x</sub> Emission Rate (lbs/MMBtu)	
		Entire Year	May through September

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Plant Name: \_\_\_\_\_

Plant ID: \_\_\_\_\_ State: \_\_\_\_\_ Reporting Year: \_\_\_\_\_

**SCHEDULE 8. PART D. MONTHLY COOLING SYSTEM INFORMATION**

**Reporting Month:** \_\_\_\_\_

Note: All steam-electric plants of 100 MW nameplate capacity or greater, including combined-cycle plants and nuclear power plants, must respond to this schedule. Cooling System ID must match the ID as reported on Form EIA-860, "Annual Electric Generator Report." **Complete a separate page for each month.** Complete a separate row for each cooling system.

Cooling System ID or Plant	Cooling System Status	Monthly Amount of Chlorine Added to Cooling Water (1000 lbs)	Hours in Service	Average Monthly Rate of Cooling Water (in cubic feet per second, to the nearest 0.1 ft <sup>3</sup> )					Cooling Water Temperature (degrees Fahrenheit)				
				Diversion	Withdrawal	Discharge	Consumption	Measured or Estimated? (If any flow rate data was estimated, select methodology.)	Average Monthly Temperature at Intake	Maximum Temperature for the Month at Intake	Average Monthly Temperature at Discharge	Maximum Temperature for the Month at Discharge	Measured or Estimated? (If any temperature data was estimated, select methodology.)

<b>U.S. Department of Energy</b> <b>U.S. Energy Information Administration</b> <b>Form EIA-923 (2011)</b>	<b>POWER PLANT OPERATIONS REPORT</b>	<b>Form Approval</b> <b>OMB No. 1905-0129</b> <b>Approval Expires: 10/31/2013</b> <b>Burden: 2.8 Hours</b>				
Plant Name: _____						
Plant ID: _____ State: _____ Reporting Year: _____						
<b>SCHEDULE 8. PART E. FLUE GAS PARTICULATE COLLECTION INFORMATION</b>						
<input type="checkbox"/> Does not apply. Complete a separate row for each flue gas particulate collector.						
Flue Gas Particulate Collector ID	FGP Collector Status	Hours in Service	Typical Particulate Emissions Rate (to the nearest 0.01 lb/MMBtu)	Removal Efficiency of Particulate Matter (nearest 0.1% by weight)		
				At Annual Operating Factor	At 100% Load or Tested Efficiency	Date of Most Recent Efficiency Test (e.g., 12-2005)

**POWER PLANT OPERATIONS REPORT**

Form Approval  
OMB No. 1905-0129  
Approval Expires: 10/31/2013  
Burden: 2.8 Hours

Plant Name: \_\_\_\_\_

Plant ID: \_\_\_\_\_ State: \_\_\_\_\_ Reporting Year: \_\_\_\_\_

**SCHEDULE 8. PART F. FLUE GAS DESULFURIZATION UNIT INFORMATION – ANNUAL OPERATIONS**

☐ Does not apply.

Note: Flue Gas Desulfurization ID must match the ID as reported on Form EIA-860, "Annual Electric Generator Report."  
Complete a separate row for each Flue Gas Desulfurization Unit.

**ANNUAL OPERATIONS**

Flue Gas Desulfurization Unit ID	FGD Unit Status	Hours In-Service	Quantity of FGD Sorbent Used (to the nearest 0.1 thousand tons)	Electrical Energy Consumption (MWh)	Removal Efficiency of Sulfur Dioxide (nearest 0.1% by wt)		
					At Annual Operating Factor	At 100% Load or Tested Efficiency	Date of Most Recent Efficiency Test (e.g., 12-2005)

**OPERATION AND MAINTENANCE EXPENDITURES DURING YEAR, EXCLUDING ELECTRICITY (THOUSAND DOLLARS)**

Flue Gas Desulfurization Unit ID	Feed Materials and Chemicals	Labor and Supervision	Waste Disposal	Maintenance, Materials, and All Other Costs	Total



Plant Name: \_\_\_\_\_

Plant ID: \_\_\_\_\_ State: \_\_\_\_\_ Reporting Month/Year: \_\_\_\_\_

**SCHEDULE 9. COMMENTS**

Comment Section: Explain any unusual values, occurrences, or changes in ownership.

Schedule	Part	Item	Comment

**Changes in Ownership**  
(Provide name of purchaser and date sold.)